

December 23, 2016

Via Email and First Class Mail

Mr. Christos Tsiamis
Remedial Project Manager – Gowanus Canal Site
Emergency and Remedial Response Division
United States Environmental Protection Agency, Region 2
290 Broadway, 20th Floor
New York, New York 10007-1866

**Subject: Monthly Progress Report No. 30
Gowanus Canal Superfund Site
Unilateral Administrative Order (UAO) Docket No. CERCLA-02-2014-2001**

Dear Mr. Tsiamis:

On behalf of the Gowanus Canal Remedial Design Group (RD Group), Geosyntec Consultants respectfully submits the November 2016 Monthly Progress Report (MPR). The MPR is a summary of actions and activities undertaken pursuant to the Administrative Order for Remedial Design executed on March 24, 2014 (the Order) for the Gowanus Canal Superfund Site. The RD Group intends to submit subsequent MPRs between the 15th day and the 30th day after the end of each month until termination of this Order, unless otherwise directed in writing by EPA.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Howard Cumberland
Project Coordinator

Attachment: November 2016 Monthly Progress Report

cc: Brian Carr, Esq., USEPA (*via email & 1 hardcopy first class mail*)
Robert Schick, Hank Willems NYSDEC (*via email & 1 hardcopy first class mail*)
Juliana Hess, CH2M (*via email*)
Gowanus Canal Remedial Design Group (*via email*)

MONTHLY PROGRESS REPORT

Gowanus Canal Superfund Site
USEPA Unilateral Administrative Order
Docket No. CERCLA 02-2014-2001

Monthly Progress Report No. 30
Reporting Period: November 2016
Submittal Date: December 23, 2016

This monthly progress report, which documents remedial design activities completed at the Gowanus Canal Superfund Site during the reporting period, is submitted to the U.S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation pursuant to section E, paragraph 60 of the Administrative Order (Order). It has been prepared by Geosyntec on behalf of the Gowanus Canal Remedial Design Group (RD Group).

1) Work Plans, Plans, and Other Deliverables

- **Submittals**

- From November 1 to November 14, 2016, the RD Group provided Daily Field Reports, Water Quality Monitoring Reports including turbidity data, and weekly Community Air Monitoring Program Reports associated with the debris removal pilot study in the 4th Street Turning Basin (TB4).
- On November 9, 2016 the RD Group submitted a memorandum on the navigation depth for TB4 and sediment stratigraphy cross sections to support discussions regarding the proposed navigation depth in TB4 following soft sediment removal and capping.
- On November 16, 2016 the RD Group provided:
 - A 3-D lithology model for the Canal as requested by EPA at the technical workshop held on October 20, 2016; and,
 - A photo presentation of TB4 site staging and debris processing operations as a status update.
- On November 18, 2016 the RD Group submitted a memorandum outlining a supplemental investigation of the former 5th Street Turning Basin (TB5) based on findings from initial pre-design investigations conducted in Summer 2016. The supplemental investigation was requested by EPA during the technical workshop held on October 20, 2016.
- On November 30, 2016 the RD Group submitted several documents to EPA, as requested at the technical workshop on October 20, 2016 by EPA:
 - A memorandum further describing the conceptual approach to bulkhead support in TB4. Two of three supporting attachments were provided with the November 30th submission, including Attachment B (bulkhead classification definitions) and Attachment C (preliminary engineering analysis). Attachment A (conceptual schematics) was provided on December 1.
 - A memorandum providing further details on the proposed boundaries of the TB4 pilot test area. Supporting figures and materials were submitted along with the memorandum.

- A letter providing details on TB4 schedule. Supporting figures included a Gantt chart of ongoing and future TB4 tasks through construction, an accompanying table of TB4 tasks showing dates and duration, and a critical path flow chart illustration.
- **In Agency Review**
 - See attached approval status tables (Tables 1 and 2) for approval status of work elements. Yellow highlighted rows show where further coordination with EPA is required.
- **Comments or Approvals Received from EPA this Period**
 - On November 4, 2016 EPA provided comments and requests regarding TB4 pilot study operations and monitoring activities including,
 - Discontinuing the use of Canal water for spraying of debris;
 - A description and rationale for the sediment removal performed in TB4 outside of the debris removal pilot study area, including estimated depth of sediment removal, the extent of the sediment removal area, and the estimated volume of sediment dredged;
 - The daily turbidity data from inside and outside the air and/or silt curtains; and,
 - A plan and timeframes for the handling of the sediment collected during debris removal.
 - On November 6, 2016 the RD Group responded to EPA comments/requests made on November 4, 2016 (see above) regarding TB4 pilot study operations and monitoring activities:
 - In response to the use of Canal water for rinsing of debris, the RD Group confirmed that Canal water was no longer being used and potable water will be used for rinsing at the staging area;
 - In response to the request for a description and rationale for the sediment removal performed, the RD Group provided the work plan and presentation material that contained rationale and details requested by EPA;
 - In response to the request for daily turbidity data and air monitoring data, the RD Group indicated that turbidity data would be accessible on November 7, 2016 and that air monitoring data was accessible through the project portal website;
 - In response to the request for a brief plan for sediment handling, the RD Group responded that handling and treatment of the removed sediment would be completed by Severson.
 - On November 9, 2016 EPA requested more information regarding the TB4 Debris Removal Pilot Study prior to providing authorization to demobilize from TB4. The RD Group responded on November 9 to EPA requests by submitting a table providing the status of TB4 debris target removal.

- On November 17, 2016 EPA informed the RD Group that a written archaeology report would have to be received and approved by EPA prior to EPA providing authorization for debris disposal. Additionally, EPA informed the RD Group about arranging a site visit for members of the Community Advisory Group and members of local press.
 - On November 28, 2016 the RD Group responded to EPA's request for a written archaeology report by submitting the Results of Archaeological Monitoring Memorandum for the TB4 Pilot Study.
- On November 23, 2016 EPA responded to the RD Group's email dated November 22, 2016 seeking approval of debris waste profiling and disposal. EPA reiterated the stabilized sediment and debris should not be removed from the site prior to EPA review and approval of all required documentation, including the archaeological report. Due to the upcoming Thanksgiving holiday, EPA did not agree with the feasibility of commencing debris and stabilized sediment removal during the week of November 28, 2016.

2) Field Activities

- Debris removal activities for the TB4 Debris Removal Pilot Study continued with dredging of debris fields in TB4 along with ancillary environmental monitoring including water quality, air/odor, and noise and vibration. The pilot study commenced on October 24, 2016.
- Site preparation and build-out construction activities on Parcel 3 of the Citizens site are ongoing as part of TB4 site staging activities. During this reporting period, construction of the asphalt pad was completed, and construction of guard sheds and trucking roadways commenced.

3) Data/Results Received and/or Generated

- Environmental monitoring data associated with TB4 debris removal activities were generated and provided to EPA via daily reports, as noted above.

4) Health & Safety Update

- No health and safety incidents or updates occurred during this reporting period.

5) Problems Encountered/Efforts to Mitigate Delays

- Debris and stabilized sediment from the debris removal pilot study was staged at Citizens site through the end of November awaiting approval from disposal locations and EPA review and approval the archaeological report and disposal plan. The material will remain on site until all approvals are provided.

6) Schedule Deviations

- EPA has requested, in comments on Section 10 of the BODR, to track the actual schedule versus the EPA's RTA1 schedule provided in November 2015 and provide the tracking file each month along with the MPR. The RD Group schedule is based on the engineering and scientific work that is required for the design of this complex project. The schedule update

is provided as Table 3. The RD Group has also provided a schedule evaluation for TB4, as requested in the October 20, 2016 technical meeting.

7) Planned December 2016 Activities

- The TB4 Debris Removal Pilot Study that commenced October 24, 2016 will continue with the removal of debris and stabilized sediment for disposal. Water quality monitoring, and noise and vibration monitoring has concluded following demobilization from TB4. Air/odor monitoring will recommence during debris and sediment removal activities.
- Continued site preparation and construction associated with TB4 site staging.

8) Access Coordination

- Responses to the request for utility information are coming in from property owners.
- Utility and cable information from USACE has been received through a FOIA request.
- Access coordination to support a supplemental investigation in the former 5th St. Turning Basin is starting.
- The RD Group coordinated with 175 Van Dykes for use of their boat ramp.
- MTA moved the bus stop located near Citizens based on an RD Group request.
- **Access agreements were previously obtained at the following properties:**
 - 270 Nevins Street (425-1) (RTA1) (270 Nevins St. Properties LLC)
 - 242 Nevins Street (418-1) (RTA1) (242 Nevins St. Inc.)
 - 226 Nevins St. (411-24) (RTA1) (226 Nevins St. Corp.)
 - 525 Union Street (432-15) (RTA1) (Sackett River Corporation)
 - 68 5th Street (471-100) (RTA2) (Housing Preservation)
 - 459 Smith Street (471-200) (RTA2) (Vichar, Inc.)
 - 65 6th Street (990-138) (RTA2) (Keyspan Energy)
 - 76 6th St. (990-369) (RTA2) (SAG LLC)
 - 42 2nd Ave. (990-269) (RTA2) (CF [or C&F] Second Ave LLC)
 - 58 2nd Ave. (990-69) (RTA2) (CF [or C&F] Second Ave LLC)
 - 479 DeGraw St. (417-21) (RTA1) (Eponymous Gowanus, LLC; 3911 Lemmon Ave Assoc; Esbond Realty, LLC)
 - 37 9th Street (990-50) (RTA2) (Gowanus Holdings, LLC)
 - 386 3rd Avenue (979-5) (RTA2) (386 3rd Avenue Partners)
 - 22 2nd Ave. (990-1) (RTA2) (Richard Ribellino) – Signed through EPA
 - 141 (or 173 on tax maps) 6th St. (979-23) (RTA2) (Maritime Estates Inc.)
 - 163 6th St. (979-18) (RTA2) (Petros Realty Corporation)
 - 160 3rd St. (466-19) (RTA2) (Empire Transit Mix)
 - 450 Union St. (438-7) (RTA1) (450 Union LLC)
 - Gowanus Canal (1025-1) (RTA2) (Hamilton Plaza Associates)
 - 12th St. (1025-18) (RTA2) (Hamilton Plaza Associates)
 - 1 12th St. Extension (1007-172) (RTA2) (Hamilton Plaza Associates)

- 1 11th St. (1007-1) (RTA2) (Lowes)
- 176 3rd St. (978-32) (RTA2) (Whole Foods)
- 186 3rd St. (978-30) (RTA2) (Whole Foods)
- 190 3rd St. (978-23) (RTA2) (Whole Foods)
- 212 3rd Street (978-16) (RTA2) (Whole Foods Market Group Inc.)
- 75 20th St. (635-13) (RTA3) (601 Sunset Owner, LLC)
- 420 Carroll St. (453-1) (RTA1) (Carroll St. Holding)
- 430 Carroll St. (453-21) (RTA1) (Carroll St. Holding)
- 318 Nevins St. (439-1) (RTA1) (Nevins St. Holding)
- 15 2nd Ave. (979-31) (RTA2) (15 2nd Ave.)
- 213 6th St. (980-95) (former 5th St. TB) (U-Haul Intl. Inc.)
- 167 6th St. (979-14) (RTA2) (Dykes Lumber Co Inc.)
- 691 Court St. (496-50) (RTA3) (Buckeyes Terminals, LLC) – Access obtained for PD-7 related tasks.
- 726 Court St. (621-136) (RTA3) (Buckeyes Terminals, LLC) – Access obtained for PD-7 related tasks.
- 175 Van Dyke Street (595-250) (off the Canal) (175 Van Dyke LLC) – Short-term use of boat ramp
- **Access agreements have been delivered to the following properties:**
 - 595 Smith St. (489-1) (RTA3) (Red Hook Developers Holdings, LLC and CF Smith, LLC) – The RD is coordinating with the EPA to directly reach out to the property.
 - 611 Smith St. (491-1) (RTA3) (Red Hook Developers Holdings, LLC and CF Smith, LLC)
 - 627 Smith St. (493-1) (RTA3) (Red Hook Developers Holdings, LLC and CF Smith, LLC)
 - 659 Smith St. (495-1) (RTA3) (Red Hook Developers Holdings, LLC and CF Smith, LLC)
 - 691 Court St. (496-50) (RTA3) (Buckeyes Terminals, LLC) – The RD Group has obtained access for PD-7 related activities and is coordinating to obtain access for other activities.
 - Gowanus Canal (624-100) (RTA3) (Buckeye Terminals)
 - 764 Court St. (496-1) (RTA3) (Buckeye Terminals)
 - 764 Court St. (624-1) (RTA3) (Buckeye Terminals)
 - 413 Bond St. (466, 17) (RTA2) (413 Bond Street LLC) – The RD Group is coordinating with the Dillenbergers.
- **Phone conversations or initial meetings have taken place at the following properties:**
 - 381 Smith St. (483-1) (RTA2) (381 Hamilton Ave Corp – Greco Brothers)
 - 551 Smith St. (483-11) (RTA2) (381 Hamilton Ave Corp – Greco Brothers)
 - 543 Smith St. (483-20) (RTA2) (539 Smith St. Realty Corp. /Benson Scrap Metal)
- **Coordination with NYC is required/has been sought at the following properties:**

- Butler St. (411-14) (RTA1) (NYCDEP)
- 2nd St.
- 1st St. (east)
- Former 1st St. Basin (west)
- President St.
- Sackett St.
- Degraw St. (West)
- Douglass St.
- Bond St.
- 2 2nd Ave. (977-3) (RTA2) (Sanitation)
- Huntington St.
- 2nd Ave.
- Creamer St.
- Smith St.
- End of 19th St.
- Union St. Bridge (NYCDOT)
- Carroll St. Bridge (NYCDOT) and associated part of the bridge on 400 Carroll St. (452-15).
- 3rd St. Bridge (NYCDOT)
- 9th St. Bridge (NYCDOT)
- Hamilton Ave. Bridge (NYCDOT)
- 448 (or 488 on tax lot map) Hamilton Ave. (625-2) (RTA3) (NYCDOT)
- 19th St. (625-250) (RTA3) (Sanitation)
- Smith St. (477-1) (RTA2) (Red Hook Concrete LOA) (leased by Red Hook Concrete LOA)
- **EPA assistance is required and/or has been sought at the following properties:**
 - 319 Bond St. (438-3) (RTA1) (426 President St.)
 - 426 President St. (445-20) (RTA1) (426 President St.)
 - 383 Carroll St. (445-11) (RTA1) (383 Carroll St., LLC)
 - 107 6th St. (990-151) (RTA2) (107 6th St., LLC)
 - 107 6th St. (990-153) (RTA2) (107 6th St., LLC)
 - 110 5th St. (977-1) (RTA2) (110 5th St. Priv.)
 - 110 5th St. (990-21) (RTA2) (110 5th St. Priv.)
 - 122 5th St. (990-16) (RTA2) (110 5th St. Priv.)
 - 107 6th St. (990-117) (RTA2) (107 6th St., LLC)
 - 36 2nd Avenue (990-160) (RTA2) (36-2nd-J Corp)
 - 593 Smith St. (487-1) (RTA3) (Mulerman-Aleksey)
 - 230 Huntington St. (477-8) (RTA2) (Red Hook Concrete LOA)

9) Meetings and Conference Calls

- A technical workshop was held between the RD Group and CH2M on November 15, 2016 to discuss the groundwater model.

- A site visit by EPA, Community Action Group members, and members of local press was held on November 22, 2016 to look at the debris removed from TB4 that was on the staging pad.

TABLE 1
DESIGN WORK PLAN APPROVAL REQUEST TABLE
Status as of December 13, 2016

Gowanus Canal Superfund Site
Brooklyn, New York

Document	Individual Work Element	Correspondence Status	Approval Status	Date of EPA Action
Gowanus Canal Pre-Design Work Plan (PDWP)	PD-1: Quality Assurance Project Plan/Field Sampling Plan	Phone call between Geosyntec and EPA on 10/09/2014 to discuss QAPP	Approved on a task-specific basis. EPA requested task-specific QAPP documents rather than one QAPP that addresses all the PDs for review facilitation purposes.	10/09/14
	PD-2: Health and Safety Plan	Phone call between Geosyntec and EPA on 10/09/2014 to discuss HASP	Not subject to EPA approval per EPA direction.	10/09/2014
	PD-3: Additional Debris Reconnaissance for Debris Removal	All comments addressed by RD Group	Approved. Final PDWP document submitted 09/02/14 incorporating EPA comments on this work element.	09/26/2014
	PD-4: Plan for Debris Removal, Decontamination	All comments addressed by RD Group	Approved. Final PDWP document submitted 09/02/14 incorporating EPA comments on this work element.	09/26/2014
	PD-5: Detailed Survey and Assessment of Existing Bulkheads for Remedy Implementation	All comments addressed by RD Group	Approved. Final PDWP document submitted 09/02/14 incorporating EPA comments on this work element. See Detailed Work Plan section for further developments.	09/26/2014
	PD-6: Plan for Staging Site Selection and Implementation	No comments received from EPA on this work section	Approved. Final PDWP document submitted 09/02/14 incorporating EPA comments on this work element. See Detailed Work Plan section for further developments.	09/26/2014
	PD-7: Evaluation of Potential Groundwater Upwelling Areas and Measurement of Discharge	All comments addressed by RD Group	Approved. Final PDWP document submitted 09/02/14 incorporating EPA comments on this work element. See Detailed Work Plan section for further developments.	09/26/2014
	PD-8: Evaluation of Potentially Mobile NAPL in Native Sediments	RD Group received conditional approval of PD-8 and additional comments from EPA on November 6, 2014. Written and verbal comments from EPA has been received after November 6, including on 12/16/14 regarding EPA's request for RD Group to conduct ISS investigation work as developed by EPA/CH2M Hill.	Conditionally Approved. Final PDWP document submitted 09/02/14 incorporating EPA comments on this work element. See comments on scope changes under Detailed PD-8 Work Plan.	12/16/2014
PDWP Attachment B	PD-9: Additional Sampling for Polychlorinated Biphenyls	RD Group responded on 09/09/2014 to EPA comments. On 11/17/14 EPA clarified that they do not assign a high priority to this task at this stage. At 11/20/14 workshop agreement was reached that PD-9 sampling scope will be defined and submitted to EPA for approval. At 02/19/14 workshop it was verbally directed by EPA that PD-9 be removed from the RTA1 schedule and sampling efforts be focused on high PCB concentrations in the 7th Street turning basin. RD Group has removed the work scope from the RTA1 Schedule provided on 04/08/15.	Removed from Work Scope.	02/19/2015
	PD-10: Stabilized Material Use and Treatability Testing	EPA comments received on 11/17/14 request combining PD-10 with PD-21 and (re) submitted in a single work plan. RD Group agreed with the combination of the work elements in the Response to EPA Comments submitted on 09/09/2014 and during the 20 November 2014 Workshop. Work elements PD-10 and PD-21 combined in PDWP Attachment B Partial Final submitted to EPA on 02/13/15.	Approval from EPA on 02/23/15 based on RD Group submission of PDWP Attachment B Partial Final on 02/13/15. See Detailed Work Plan section for further developments.	02/23/2015
	PD-11: Study of Canal Operations	RD Group responded on 09/09/2014 to EPA comments	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	09/26/2014
	PD-12: Groundwater Model Update	On 11/17/14 EPA stated that they reserve comment for this task until it can be discussed at the upcoming 11/20/14 Workshop. Follow-up call between Geosyntec and CH2M Hill resulted in several action items and scope requests by CH2M Hill that are currently still being resolved. Geosyntec sent responses to scope requests to CH2M Hill on 12/11/14.	Conditionally Approved. Approval was provided for PD-12 by EPA on 02/23/15 contingent upon satisfactory incorporation of the inputs that were provided by EPA’s contractor, CH2MHill and text “this work element will be revised as needed based on future refinements of the groundwater model and in consultation with EPA.”	02/23/2015
	PD-13: Upland Area Evaluation of Cutoff Walls	RD Group responded on 09/09/2014 to EPA comments. Additional EPA comments expected by RD Group per EPA email on 09/26/14, but comments have not been received to date. EPA commented on 11/20/14 in workshop that EPA would provided written direction on how to proceed with task. Written direction has not yet been received. On 02/23/2015 EPA requested that PD-13 be resubmitted for the focused upland investigations around the 4th/5th Street Basin and 6th/7th Basins as discussed at the 02/19/2015 Workshop. On 08/26/15 EPA requested information related to which uplands the RD Group were planning on investigating, and to what extent, in TB4/5 and RTA1.	Not Approved. In response to EPA's request on 08/26/15, at the workshop on 09/09/15 the RD Group provided nexus packages for RTA1 and TB4/5 locations which showed select contaminant concentrations in the upland properties adjacent to the Canal. The nexus packages showing known upland sources and PRPs were provided to EPA in order for further discussion of how the potential upland sources are to be investigated and under the proper regulatory agency (EPA or DEC).	08/26/2015

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PDWP Attachment B	PD-14: Compliance Plan for Federal and State Archeological Requirements	Responses provided by RD Group to EPA comments.	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	09/26/2014
	PD-15: Laboratory Evaluation of NAPL Mobility	RD Group responded on 09/09/2014 to EPA comments	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	09/26/2014
	PD-16: Revisions to Sediment and Hydrodynamic Models	RD Group responded on 09/09/2014 to EPA comments	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	09/26/2014
	PD-17: Evaluation of Active Cap Treatment Technologies	RD Group responded on 09/09/2014 to EPA comments. On 11/17/14 EPA stated that they would like to discuss the scope of the work and RD Group's responses to comments. At the 11/20/14 workshop EPA provided information on work they are conducting, but did not provide additional comments related to PD-17 scope nor approval of the general work element for RD Group to develop detailed work plans. Revision of this work element was provided in the Partial Final PDWP Attachment B submitted to EPA on 02/13/15. RD Group responded on 6/2/2015 to EPA comments. At the 05/13/15 and 06/11/15 meetings EPA indicated approval would be forthcoming.	Approved. On 6/18/15 EPA provided approval for thePD-17 Work Plan scope excerpt submitted on 6/2/15 contingent upon the summary of PD-17 communications being appended to the PD-17 Work Plan scope, and preparation and addition of a table specifying the work element under which the data mentioned in the revised “summary of communications of PD-17” document will be collected. The revised PDWP Attachment B was provided, compliant EPA's requests, on 6/29/15.	6/18/2015
	PD-18: Geotechnical Characterization for Cap Design	RD Group responded on 09/09/2014 to EPA comments	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element. See Detailed Work Plan section for further developments.	09/26/2014
	PD-19: Laboratory Evaluation of ISS Performance	RD Group responded on 09/09/2014 to EPA comments. EPA stated on 11/17/14 that they "EPA will not review any documentation on this task since it has already completed its own laboratory evaluation of the ISS and is about to conduct the ISS pilot study." EPA stated they will provide RD Group the opportunity to comment on EPA’s ISS work plans and other relevant documentation. Some components of RD Group's PD-19 scope have been incorporated into EPA's Technical Plan for Pre-Pilot Investigation and ISS Pilot Testing. RD Group has removed the work scope from the RTA1 Schedule provided on 04/08/15.	Removed from Work Scope.	11/17/2014
	PD-20: Technical Workshops	On 11/17/14 EPA stated that Technical Workshops are not a remedial design element and workshops will be held on an as-needed basis. Earlier comments from EPA on PD-12, received by RD Group on 08/01/14 have requested that Technical Workshops be included in the Remedial Design schedule. Comments from EPA on PD-20 received on 08/01/14 indicate the need for several technical workshops.	Approved. Partial Final PDWP Attachment B submitted on 02/13/15 incorporating EPA comments on this work element.	2/23/2015
	PD-21: Sediment Stabilization and Treatment Technologies Treatability Studies	To be combined with PD-10. See comments under PD-10	Approved. See comments under PD-10	02/23/2015
	PD-22: Bathymetric Survey after Flushing Tunnel Operation	RD Group responded on 09/09/2014 to EPA comments	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	10/2/2014
	PD-23: Dredge Volume Field Study	No comments received from EPA on this work section	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	09/26/2014
	PD-24: Propeller Wash and Cap Armoring Study	RD Group responded on 09/09/2014 to EPA comments	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	09/26/2014
	PD-25: Design CSM Refinement	RD Group responded on 09/09/2014 to EPA comments	Approved. Partial Final PDWP Attachment B submitted on 10/14/14 incorporating EPA comments on this work element.	09/26/2014

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PDWP Attachment B	PD-26: Basis of Design Report	On 11/17/14 EPA stated that they prefer separate Basis of Design Reports be prepared and submitted for the individual design elements. The request was restated at the 11/20/14 technical workshop. EPA comments were incorporated into PDWP Attachment B Partial Final submitted to EPA on 02/13/15.	Conditionally Approved. Final Approval of general work scope expected from EPA with submission of Partial Final PDWP Attachment B on 02/13/15 which incorporates EPA comments. EPA stated that approval is subject to a separate Basis of Design (BOD) be developed for the 4th/5th Street Basin and RTA-1 work. EPA also requested the BOD will be updated following the data collection and analysis of the different PD elements.	02/23/2015
Remedial Design Work Plan	Introduction and Background	RD Group responded on 09/02/2014 to EPA follow up comments. Revised RDWP and Schedule submitted to EPA by RD Group on 04/08/15. EPA provided comments on 06/19/15 stating they were prepared to provide approval to the RDWP following removal of the schedule and any diagrams or references to the schedule. Resubmission of RDWP consistent with EPA comments 06/24/15.	Approved.	7/2/2015
	Bulkhead Repair or Replacement Comments			
	Excavation/Restoration of the Fifth Street Turning Basin			
	Dredging	Revised Dredging Related Activities portion of the RDWP submitted to EPA by RD Group on 06/02/15. Received comments on the Dredging Related Activities portion of the RDWP on 06/25/15.		
	Capping			
	ISS			
	Ex Situ Sediment Treatment	All comments addressed by RD Group. Revised RDWP and Schedule submitted to EPA by RD Group on 04/08/15. EPA comments on RDWP on 6/19/15 and requested resubmission for approval. Resubmission on 06/24/15.		
	Dredge Water Treatment			
	Dredging and Capping Support Site Development	No comments received from EPA on these work sections. Revised RDWP and Schedule submitted to EPA by RD Group on 04/08/15. EPA comments on RDWP on 6/19/15 and requested resubmission for approval. Resubmission on 06/24/15.		
	Source Control Action Design			
	Regulatory Requirements			
Green Remediation				
Detailed Work Plans and QAPPs	PD-4: Debris Management Plan	Submitted to EPA on 10/30/15. Comments received from EPA on 11/19/15. Revised work plan and response to comments submitted on 12/14/15. EPA approval provided on 12/17/15.	Approved.	12/17/2015
	PD-5: Pilot Study Work Plan for Bulkhead Assessment	Submitted to EPA on 11/18/14. Comments received from EPA on 12/22/14. Response to Comments submitted on 01/12/15. Final detailed work plan submitted 01/20/15.	Approved.	01/21/2015
	PD-5: Survey and Assessment of Existing Bulkheads	Submitted draft to EPA on 02/09/15. Submitted Final Detailed Work Plan for PD-5 on 3/26/15. Submitted RLSO version and revised PD-5 work plan on 6/24/15.	Approved.	07/02/15
	PD-6: Staging Site Selection and Implementation Plan	RD Group submitted the PD-6 Staging Site Selection and Implementation Plan to EPA on 01/19/15. EPA has commented verbally that they do not plan to approve the WP since Citizens has been identified as a staging site.	Not Approved.	--
	PD-7: Evaluation of Potential Groundwater Upwelling Areas and Measurement of Discharge	Draft and Final Detailed Work Plans were submitted in October 2015.	Approved.	11/6/2014

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Document	Individual Work Element	Correspondence Status	Approval Status	Date of EPA Action
Detailed Work Plans and QAPPs	PD-8: Evaluation of Potentially Mobile NAPL in Native Sediments	RD Group submitted Detailed Work Plan for PD-8 on 11/25/14. EPA Comments received by RD Group in November and December 2014 regarding detailed work scope. Expansion of general PD-8 work scope and schedule requested by EPA. EPA written comments received on 12/22/14. Response to EPA Comments submitted on 01/12/15. EPA provided new direction related to work element PD-8 via email on 14 January 2015, in response to information on driller and TarGOST/CPT subcontractor availability provided by RD Group on 06 January 2015. The sequence of PD-8 investigation activities was requested by EPA. RD Group agreed with the proposed sequence via email correspondence on 26 January 2015.	Conditional approval provided by EPA on 01/29/15 with need for the final version to incorporate EPA comments. Final PD-8 Detailed Work Plan submitted on 02/09/15. Comments or written approval of Final Work Plan not provided by EPA.	01/29/2015
	PD-10/21: Dredged Material Stabilization and Dewatering Treatability Study	Submitted to EPA on 3/5/15. Comments received from EPA on 3/20/15. Response to Comments and Final Work Plan submitted to EPA on 04/10/15.	Approved	5/20/2015
Detailed Work Plans and QAPPs	PD-15: Laboratory Evaluation of NAPL Mobility	Submitted to EPA on 7/31/2015. EPA provided comments on 9/16/2015. The RD Group provided responses to EPA comments and Final Work Plan on 10/12/15. EPA follow-up comments provided received by the RD Group on 10/29/15. RD Group Response to follow-up comments and Final Work Plan submitted to EPA on 11/05/15. EPA approval provided on 11/19/15.	Approved	11/19/2015
	PD-17: Evaluation of Active Cap Treatment Technologies	Submitted to EPA on 7/24/2015. EPA provided comments on 9/14/2015. The RD Group provided responses to EPA comments and Final Work Plan on 10/12/15. EPA follow-up comments provided received by the RD Group on 10/29/15. RD Group Response to follow-up comments and Final Work Plan submitted to EPA on 11/05/15. EPA approval provided on 11/19/15.	Approved	11/19/2015
	PD-18: Geotechnical Characterization for Cap and Dredge Design	Submitted to EPA on 11/18/14. Comments received from EPA on 12/22/14. Response to Comments submitted on 01/12/15.	Conditional approval provided by EPA on 01/26/15 with need for final version to incorporate EPA comments. Final Version Submitted to EPA on 02/13/15. Comments or written approval of Final Work Plan not provided by EPA.	01/26/2015
	Pre-Design Investigations for 5th Street Turning Basin	RD Group submitted Work Plan on 08/27/15. EPA provided comments on 10/07/15 along with email correspondence requesting additional confirmatory borings "to characterize the extent of contamination within TB5 in order to determine the required extent of excavation of TB5." Responses to EPA Comments provided by the RD Group on 10/28/15. EPA correspondence on 11/09/15 requesting revision of the Work Plan. RD Group provided a letter to EPA on 11/16/15 requesting a combined technical/legal meeting to discuss the topic. EPA letter on 11/30/15 directing the work to be conducted. RD Group submitted revised Work Plan on 12/10/15. Comments received by EPA on 03/10/16. Directive from EPA to respond by 3/25/16. Response to comments, revised Work Plan, and QAPP submitted by RD Group on 03/25/16. Follow-up comments provided by EPA on 05/06/16 directing responses by 05/20/16. Email from EPA on 05/19/16 to allow for mobilization if Group agrees to provide comments by 05/31/16. RD Group provided revised Work Plan on 05/31/16 per EPA directive. RD Group emailed EPA on 06/15/16 inquiring about the approval status of the Work Plan with field work scheduled for the following week (06/23/16). On 06/15/16 EPA responded with additional revisions to the document and noted that the document was not yet approved. Following conversations between the RD Group and Brian Carr, alternative language was provided on 06/17/16 by Brian Carr which superseded EPA's comments on 06/15/16. The RD Group provided a revised version of the Work Plan on 06/20/16 and followed up with an email on 06/22/16 inquiring on the approval status of the Work Plan. On 06/22/16 EPA noted that revisions were not acceptable and that no work is to be performed until EPA approval is provided. The RD Group provided a revised version of the Work Plan on 6/27/2016 containing the specific language and schedule directed by EPA via email correspondence on 6/22/2016. As part of the submission of the Work Plan, a cover letter requesting a combined legal and technical meeting to further discuss the scope of work was included. On 06/27/16 the RD Group resubmitted the TB5 Work Plan. On 06/28/16 EPA provided written approval of the work.	Approved.	06/28/2016
	Supplemental Pre-Design Investigations for 5th Street Turning Basin	RD Group submitted a supplemental Work Plan for pre-design investigations at TB5 on 11/18/16 based on discussions with EPA at the technical workshop on 10/20/16.	EPA comments provided on 12/13/16. RD Group Responses to EPA Comments in preparation.	12/13/2016

Note:

Conditional Approval by EPA pending resolution of issues and/or finalization of detailed work plans
Highlighted items represent tasks still requiring EPA approval

TABLE 2
INVESTIGATION AND DESIGN REPORT APPROVAL TABLE
Status as of December 13, 2016

Gowanus Canal Superfund Site
Brooklyn, New York

Document	Individual Work Element	Correspondence Status	Approval Status	Date of EPA Action
Gowanus Canal Investigation Reports	PD-7: Evaluation of Potential Groundwater Upwelling Areas and Measurement of Discharge	Investigation report submitted by RD Group to EPA on 10/15/15. Additional appendices submitted by RD Group to EPA on 11/13/15. EPA provided comments on the report on 11/19/15. RD Group provided Response to comments on 01/04/16 and requested data on 01/08/16.	Conditionally Approved. EPA provided conditional approval on 01/21/16 provided that the RD Group make the necessary revisions in the PD-7 documentation, incorporate EPA's recommendations into the methodology going forward, and submit the revised documentation acknowledging the changes. Final Report submitted by RD Group on 02/25/16	01/21/2016
	PD-5: Detailed Survey and Assessment of Existing Bulkheads for Remedy Implementation (Phase 1 Reports)	Investigation report submitted by RD Group to EPA on 11/13/15. EPA provided comments on the report on 02/12/16. RD Group submitted responses to comments and revised reports on 04/20/16. Approved by EPA on 05/05/16.	Approved on 05/05/16.	05/05/2016
	PD-5: Detailed Survey and Assessment of Existing Bulkheads for Remedy Implementation (Phase 2 Reports)	Select investigation reports for properties (Block 979 Lots 18, 23, and 31) in adjacent to TB4 submitted by RD Group to EPA on 06/02/16. Remaining Phase 2 investigation reports submitted on 06/29/16. Investigation report for the 420 Carroll Street property was submitted by the RD Group on 10/6/2016.	Awaiting EPA comments and/or approval.	--
	PD-8: NAPL Mobility	A working draft of the PD-8 NAPL mobility report was submitted by the RD Group for EPA review on 10/7/2016. Appendix A (ERT Report), Appendix H (High-Resolution Photos), and Appenix J (TestAmerica Lab Reports) were submitted by the RD Group for EPA review on 10/13/2016. Discussion of report at technical workshop on October 20, 2016. Follow-up items provided by the RD Group to EPA on 12/05/16.	Awaiting EPA comments and/or approval.	--
	PD-10/21: Dredged Material Stabilization and Dewatering Treatability Study	Investigation report submitted by RD Group to EPA on 6/22/16. EPA provided comments on 07/28/2016. Resubmitted by the RD Group on 09/15/16.	Awaiting EPA comments and/or approval.	7/28/2016
	PD-14: Compliance Plan for State and Federal Archaeological Requirements	Historical research on the sunken vessel in TB4 was provided by the RD Group to EPA on 03/25/16. EPA responded on 03/29/16 that the materials will be reviewed and coordinated when information is provided on other items of potential cultural significance. The RD Group uploaded historical research information on several other items in the Canal on 06/15/16. On 06/15/16 the RD Group provided materials comprising the Archaeology Compliance Plan; specifically, the Area of Potential Effect, the Cultural Resources Monitoring Plan, and the Cultural Resources Mitigation and Treatment Plan. EPA provided SHPO concurrence letter for sunken vessel in TB4 on 07/13/16 which provides SHPO concurrence that the sunken vessel is not a significant cultural resource. EPA, SHPO, and the RD Group coordinated on revisions to PD-14 materials based on comments received 07/18/16. RD Group resubmitted materials on 09/02/16.	Awaiting EPA comments and/or approval.	07/18/16
	PD-15: Laboratory Evaluation of NAPL Mobility by Ebullition	Draft PD-15 Laboratory Evaluation of NAPL Mobility by Ebullition was submitted by the RD Group to EPA for review on 10/6/2016.	Awaiting EPA comments and/or approval.	--
	PD-18: Cap and Dredge Design Geotechnical Investigation	Investigation report submitted by RD Group to EPA on 12/09/15.	Approved on 02/12/16.	2/12/2016

TABLE 2
INVESTIGATION AND DESIGN REPORT APPROVAL TABLE
Status as of December 13, 2016

Gowanus Canal Superfund Site
Brooklyn, New York

Document	Individual Work Element	Correspondence Status	Approval Status	Date of EPA Action
Gowanus Canal Design Reports and Documents	PD-4: Plan for Debris Removal, Decontamination	Document submitted by RD Group to EPA on 10/30/15. EPA provided comments on the report on 11/19/15. RD Group submitted Response to Comments and Final Plan on 12/14/15.	Approved on 12/17/15.	12/17/2015
	RD-22: Noise and Vibration Report	Document submitted by RD Group to EPA on 11/23/15. EPA provided comments on the report on 02/12/16. RD Group submitted revised documents and response to comments on 04/12/16. Approved by EPA on 05/05/16.	Approved on 05/05/16.	05/05/2016
	Basis of Design Report Sections on Dredging, Sediment Treatment, Site Staging	Document submitted by RD Group to EPA on 1/21/16. EPA provided comments on the report on 03/10/16. RD Group submitted responses to comments and revised sections on 03/25/16. EPA follow-up comments received on 05/06/16 with responses directed to be returned by 05/27/16. On 05/27/16 the RD Group submitted the Final Basis of Design Report (BODR) documents for Sections 1-4 and Section 8 that with a Response to Comments document. EPA provided approval of Sections 1-4, 8 on 06/17/16.	Approved on 06/17/16.	06/17/2016
	Basis of Design Report Sections	Documents submitted by RD Group to EPA on 04/15/16. EPA comments on Water Treatment, Environmental Management, and RA Schedule sections provided on 05/20/16. RD Group provided revised version of Water Treatment and Environmental Management sections on 08/02/16. The revised version of the RA Schedule section was provided by the RD Group on 9/14/16. EPA follow-up comments on Environmental Management BODR Sections 5 and 11 on 09/21/16. RD Group submitted revised version of Water Treatment BODR section on 10/5/2016. EPA comments on ISS section provided on 6/17/16. EPA comments on Capping section provided on 6/16/16. RD Group provided revised version of ISS section on 09/02/16. RD Group provided revised version of Capping section on 09/16/16. RD Group submitted Temporary Shoring BODR on 09/23/2016. RD Group submitted TB5 BOD on 07/12/16. EPA provided comments on the TB5 BODR on 07/29/2016. RD provided revised version of TB5 BOD to EPA on 09/16/16.	Awaiting EPA comments and/or final approval.	06/29/2016
	35% Design Report Outline	Documents submitted by RD Group to EPA on 04/15/16.	No EPA comments and/or approvals provided. Superseded by submission of 35% design report on October 31, 2016.	--
	35% Design Report	Documents submitted by RD Group to EPA on 10/31/16, including Appendix A (Preliminary [35%] Drawings), Appendix B (Calculation Packages), Appendix C (Construction Quality Assurance Plan [CQAP]), and Appendix E (Pre-Design [PD] Reports).	EPA comments provided on 35% design for Dredging, Water Treatment, and Sediment Treatment on 12/13/16. RD Group Responses to EPA Comments in preparation.	12/13/2016
	Site Staging and Debris Removal Permitting Packages	Documents submitted by RD Group to EPA on 08/09/2016. Approved on 09/06/16	Approved.	9/6/2016

Note:

Conditional Approval by EPA pending resolution of issues and/or finalization of detailed work plans
Highlighted items represent tasks still requiring EPA approval

Table 3
Status of Pre-Design Work Elements
Gowanus Canal Superfund Site, Brooklyn NY

Item	Pre-Design Work Element	Status	Completion Dates		Comment
			EPA November 2015 Schedule	November 2016 RD Group Update	
PD-1	Quality Assurance Project Plan	Completed	--	--	Revised for each task-specific Work Plan.
PD-2	Health and Safety Plan	Completed	--	--	Revised as needed.
PD-3	Additional Reconnaissance for Debris Removal	Completed	--	--	Final Report submitted to EPA on 04/21/15.
PD-4	A Plan for Debris Removal, Decontamination, and Disposal	Completed	--	--	Final Report approved by EPA on 12/17/15.
PD-5	Detailed Survey and Assessment of Existing Bulkheads for Remedy Implementation	In progress	5/11/16	01/05/17	Phase 1 properties completed; Phase 2 field work completed and factual reports provided to EPA. Field work at 420 Carroll Street was completed on August 7-8 with a factual report submitted in September 2016. Date provided is scheduled date of final EPA approval for Phase 2 reports. Awaiting EPA comments and/or approval.
PD-6	A Plan for Staging Site Selection and Implementation	In progress	2/17/15	5/26/15	Continued evaluation of staging site needs and locations is being conducted, under the assumption that Citizens Site Parcel 3 will be the primary staging location.
PD-7	Evaluation of Potential Groundwater Upwelling Areas and Measurement of Discharge Rates	Completed	--	--	Report approved by EPA on 1/21/16.
PD-8	Evaluation of Potentially Mobile NAPL in Native Sediments	In progress	3/16/16	10/07/16	Field work completed in RTA1 and TB4. Lab work completed for RTA1 and TB4. Data analysis and interpretation in progress. Draft report provided to EPA on 10/07/16 in advance of Technical Meeting on 10/20/16. EPA review of work ongoing.
PD-10/21	Stabilized Material Use and Treatability Testing	In progress	12/18/15	9/16/16	Field work completed. Draft report provided to EPA on 06/27/16 with EPA comments on Draft provided on 07/28/16. Date provided is submission of Final report to EPA. Awaiting EPA comments and/or approval.
PD-11	Study of Canal Operations	In progress	9/18/15	12/23/16	Updates based on recent (2016) changes vessel traffic patterns. Analysis is completed and reporting in progress. Date provided is completion of report preparation and task is not on critical path.
PD-12	Groundwater Model Update	In progress	1/22/16	11/15/16	Work commenced after PD-7 approval. Date provided is date of interim meeting with RD Group and CH2M to discuss calibrated model. Timing of calibration report is dependent on outcomes of meeting and action items identified.
PD-13	Upland Area Evaluation for Cut-off Walls	In progress	12/21/15	—	At the Technical Workshop on 09/09/15 with EPA the RD Group provided nexus packages for RTA1 and TB4/5 locations which showed select contaminant concentrations in the upland properties adjacent to the Canal.
PD-14	Compliance Plan for Federal and State Archeological Requirements	In progress	9/18/15	9/02/16	Draft materials provided to EPA on 06/15/16. Comments on Draft materials provided on 07/13/16 and 07/18/16. Revisions provided to EPA. Programmatic agreement underway.

Table 3
Status of Pre-Design Work Elements
Gowanus Canal Superfund Site, Brooklyn NY

Item	Pre-Design Work Element	Status	Completion Dates		Comment
			EPA November 2015 Schedule	November 2016 RD Group Update	
PD-15	Laboratory Evaluations of NAPL Mobility via Ebullition	In progress	2/5/16	10/05/16	Lab work completed. Reporting in progress. Date provided is submission of draft Phase 1 Report to EPA. Awaiting EPA comments and/or approval.
PD-16	Revisions to Sediment and Hydrodynamic Models	In progress	7/31/15	12/30/16	--
PD-17	Evaluation of Active Cap Treatment Technologies	In progress	8/19/16	12/23/16	Phase 1 reporting in advance of Phase 2 work scoping. Date provided is submission of draft Phase 1 Report to EPA.
PD-18	Geotechnical Characterization for Cap Design	Completed	--	--	Report approved by EPA on 2/12/16.
PD-19	Laboratory Evaluation of ISS performance	In progress	1/8/16	06/16/16	Review of EPA Pilot Test Report after receiving report on 04/05/16.
PD-20	Technical Workshops	In progress	--	--	--
PD-22	Bathymetric Survey After Flushing Tunnel Operation	Completed	--	--	Completed in Fall 2014.
PD-23	Dredge Volume Field Study	Completed	7/17/15	10/31/16	Draft calculation package provided to EPA on 04/15/16. Resubmitted with 35% design submittal.
PD-24	Propeller Wash and Cap Armoring Study	In progress	1/1/16	11/28/16	To be started after PD-11 completion. It is anticipated that PD-24 will be incorporated directly into capping design without a formal report submitted to EPA.
PD-25	CSM Refinement	In progress	--	05/12/17	To be started after all preceding pre-design work elements are completed.
PD-26	Basis of Design Report	In progress	9/30/16	12/28/16	Draft Reports in review and approvals provided by EPA on several sections. See Table 2 for review status of Basis of Design Report sections.
XX	Pre-Design Investigations for Former 5 th Street Turning Basin	In progress	7/12/16	TBD	Pre-Design Work Plan for the 5 th Street Turning Basin approved by EPA on 06/28/16. Field work completed and follow-up supplemental investigation Work Plan was submitted on November 16, 2016. Schedule of supplemental investigation field efforts will be determined following EPA concurrence of supplemental investigation Work Plan.

Notes:

Status and comments project details as of December 13, 2016.

Table has been prepared for comparison purposes only for submission with the Monthly Progress Report.